

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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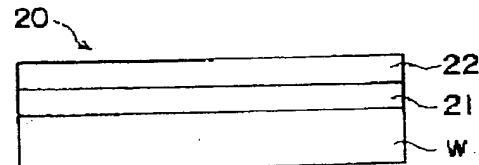
APPLICATION DATE : 27-06-97  
APPLICATION NUMBER : 09172424

APPLICANT : FUJITSU LTD;

INVENTOR : ASAHI HAJIME;

INT.CL. : H01L 21/3065 H01L 21/338 H01L  
29/812 H01L 33/00 // C09K 13/06  
C23F 4/00

TITLE : MANUFACTURE OF COMPOUND  
SEMICONDUCTOR

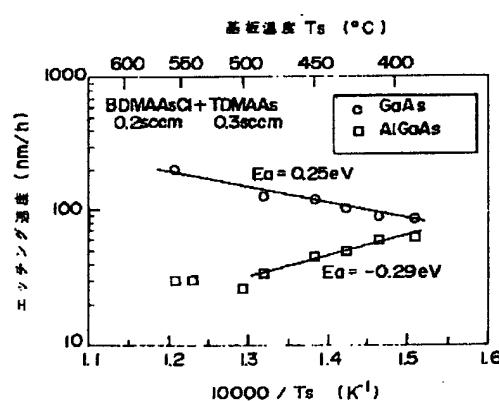


ABSTRACT : PROBLEM TO BE SOLVED: To improve controllability of etching rate by using bisdimethylamino arsenic chloride or  $(NR_2)_2AsHCl$  or  $(NR_2)_2AsCl$  as etching gas.

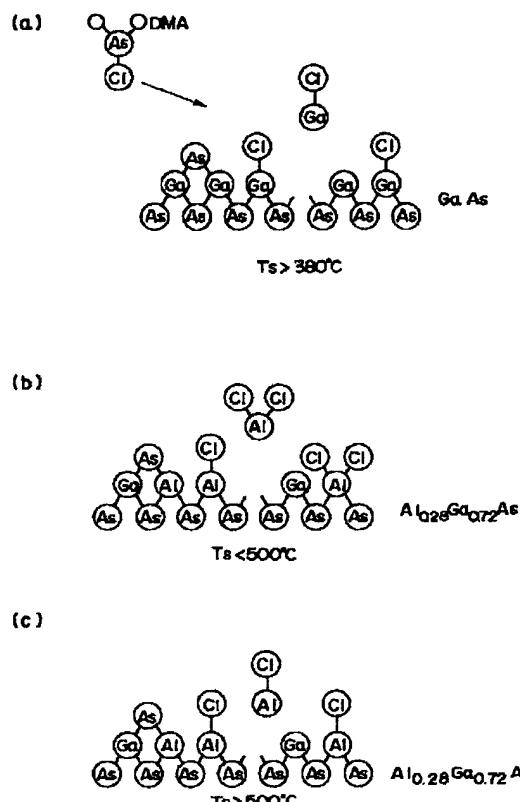
SOLUTION: Bisdimethylamino arsenic chloride is emitted to a sample 20 wherein an  $Al_{0.28}Ga_{0.72}As$  layer 21 and a GaAs layer 22 are formed on a GaAs substrate W as etching gas through a gas tube of a gas source MBE device, and gas-like BDMA AsCl is cast by opening of a shutter without using carrier gas. In the process, a substrate temperature is set at 500°C, for example, and the AlGaAs layer 21 is made to function as an etching stop layer or continuous etching of the GaAs layer 22 and the AlGaAs layer 21 at 400°C or lower can be selected. Furthermore, etching rate of the GaAs layer 22 and the AlGaAs layer 21 to temperature variation within the range of 390 to 550°C can be readily controlled by using BDMA AsCl.

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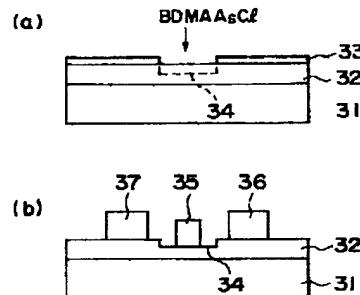
【図5】



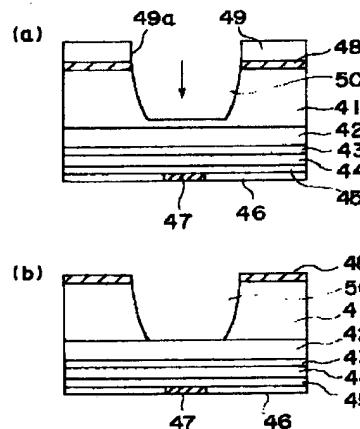
【図6】



【図7】



【図8】



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